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The Oracle

Newsletter of the Silver Springs Radio Club

Oldest Radio Club in Marion County, FL



August 2020

President's Message

Elbert Wilkinson, KQ3K

BACK FROM VACATION:

Where has this summer gone? Just a few short weeks ago we were at the Crescent Beach condo we rent every year. I was on restricted activity due to some MOHS surgery on my ear the previous week, so no pool or water for me. I setup my KX2 inside the condo and the antenna on the balcony without much success in making contacts. Even FT8 was negligible. The reception from this location was non-existent and I suspect the massive amount of steel and concrete construction attenuated any signals. I've always struggled to play radio from that location.

However, about ten miles south is Washington Oaks Gardens State Park. It is a small, compact park straddling A1A with half on the beach and the other half on the Matanzas River. It is also designated as K-1926 by Parks On The Air, so off I went with my gear on a POTA shakedown run. I made a few contacts and learned what worked and what did not. Pictures of my setup at the park:



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Next Club Meeting

August 18, 7:00 PM via Zoom

**Program: Building a Serious
State-of-the-Art HF Transceiver**

by Bert Garcia, N8NN
(See the article on page 5.)

SSRC Board of Directors meets the first Tuesday of each month, 7:00 PM as required.

Upcoming Events/Meetings

[Click here to sign up.](#)

[ARES Update](#) - Ron Viola, KS4SW

All ARES meetings are canceled until further notice.

[Education/Testing](#) – Jim Burgess, KN4MIV

Testing will be Sept. 8, 7 PM, Green Clover Hall

My son kept chewing on electrical cords, so I had to ground him. He is currently doing better and conducting himself properly.

Tom Lufkin, W4DAX

**Silver Springs
Radio Club Net**

K4GSO

Mondays at 7:30 PM
146.610, PL 123



MEMBERSHIP:

Don't forget, MEMBERSHIP is still job #1. We actually have another new application or two. Older members, we need you to help new members, especially those recently licensed, so adopt someone. This is important for their success in the hobby and us as a club. The sheer volume of information and technical details can be overwhelming, so help them out. End of sermon for this month. Rinse and repeat next month!

QSO TODAY VIRTUAL HAM EXPO:

Mark your calendar for August 8 and 9 to attend via your desktop, laptop, tablet or smartphone. There will be speakers, exhibitors and special conferences all built around a virtual reality platform. This is an ARRL sanctioned hamfest sponsored by Icom, FlexRadio, DX Engineering, RFinder, RigExpert, RTSystems, Elecraft and GigaParts. With Dayton being cancelled this Spring, this is your chance to see what you missed. If you are interested, more information and sign-up can be found here ->>> www.qsotodayhamexpo.com

JULY HAM SCHOOL / POTA ACTIVATION:

The July Ham School on Saturday July 25th was at Indian Lake State Forest where we conducted a Parks On The Air activation. This forest carries the POTA designation of K-4624 and is located on north CR 35. For those who have never been there, it is a beautiful and quiet large tract of land straddling both sides of CR 35 with eleven miles of horse trails, primitive camping and hiking trails. There is also a covered pavilion near the lake where we set up. I arrived at 8:00am followed shortly by Tom Lufkin, W4DAX.

Tom had been having difficulty tuning his Buddipole and we got busy setting up a 7m dipole configuration using my new RigExpert 230 Stick Analyzer to dial it in. Tom connected his IC-7300 and started making contacts. The man is a POTA BEAST, or maybe it was the rig, but he was awesome nevertheless! I predict a ham school session or two in Tom's future to teach newer hams the art and skill of radio communications.

My Buddipole was configured as a 20m vertical and connected to my IC-7000. Tom and I were both on battery power and on opposite sides of the pavilion. One thing we quickly realized is that we were stepping on each other when we transmitted. (yes - just like Field Day!) 7m SSB was open and Tom made a bunch of POTA contacts early on and then when I was able to make QSOs on 20m which was up and down, he would come over, grab my mic and score another QSO using his call. It was a "twofer" all around for the activators and hunters.

We were pleased to have Bill, KW5BG, Bruce, WA4IPU, Jim, K3QHO, and later on, Cricket, Tom's lady friend join us in our POTA activation. I would be remiss to also note that around 9:00am, we were ambushed in a surprise attack by every damn mosquito east of the Mississippi. Ok, maybe not all of them, but you could have fooled me. There were a lot of those little suckers! Tom and I quickly exhausted my bug spray which had held them somewhat at bay until Cricket mercifully arrived with more ammo and saved the day. While we were operating, several groups of horseback riders came by and talked to us – some actually knew we were amateur radio operators and commented on our being there.

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Late morning an extended family with lots of adults and kids started arriving for a birthday party for their 11 year old daughter. As time passed, more family arrived and the noise level inside the pavilion increased accordingly. They were curious about our activities and were very polite. They even offered to feed us hamburgers. It was nearing 1:00pm and our cutoff time, so we declined and started packing up to leave. Later in the week and much to my dismay, I discovered I had three full cans of mosquito spray in

Here are our alibi pictures proving we were there!

the back of my Explorer that I had overlooked. Tom and I had suffered needlessly. OOPs.

Will we do it again there? Absolutely! We'll also activate some other parks too. It is a lot of fun and a great way to get outdoors and practice operating in less than ideal conditions. That's what we train to do. We'll also make sure we have enough bug spray. It is Florida after all – home to retirees, snakes, mosquitoes and various other pests!



THIRD ANNUAL OUTDOOR EXPO:

No significant change from what I reported last month. North Central Florida Media has invited the club to participate in their event this year. Because of the recent uptick of COVID-19 cases in Marion County, the event has been pushed back to at least September. The exact date and time will be determined based upon the local virus situation. The

event will still be held at the Southeast Livestock Pavilion. It was a fun event last year where we demonstrated the art and skill of amateur radio communications to the public. This year we will try to setup inside the arena instead of outside for better foot traffic exposure to the public. NCFM owns and operates several popular local radio stations:



With all of our earlier scheduled high visibility events (Marion County Day, March for Babies and Florida Parks on the Air) cancelled due to the COVID-19 restrictions, this will give us an excellent opportunity to promote the club and hobby.

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PERRY FIELD LEASE RENEWAL:

It is hard to believe that we last renewed the lease on Perry Field almost five years ago, but time flies. We were contacted by County Engineering just before the lockdown about the club exercising its option to renew for another five years. The item was discussed at the last board meeting with the board electing to proceed and notice was given to the County with proof of liability insurance provided as requested. The renewal will be placed as a consent item for one of the meetings scheduled for September or October.

HAMFEST:

We are continuing to plan for our Hamfest to be held on December 5th, although it will be a little different from previous years due to the pandemic. The commercial vendors are anxious to attend because most hamfests this year have been cancelled due to the COVID-19 restrictions and they are eager to get back on the circuit. Carl, KC5CMX, has been in contact with the vendors and club members outlining the basic changes. Due to requirements for social distancing, we will need to limit the number of vendors and tables for each so that everyone can

spread out. Your hamfest committee will be looking at other measures we can take to ensure a great hamfest and maintain the safety of everyone. All of our plans are contingent upon no further surprise restrictions by the various governmental entities and the willingness of our host venue – First Christian Church to allow the event to proceed. Club membership will be updated as our plans evolve, so stay tuned!

THE ORACLE:

Thank you to all the members who send Marty, N4GL, articles for the club newsletter. Your contributions help make our newsletter interesting and informative. It can be on anything you been doing, working on, experimenting with, etc. – you know the drill. Please send your articles to her at ---->>>> N4GL.MARTY@GMAIL.COM

With a little luck, we will be done with all these COVID-19 virus restrictions and we can get back to normal. Stay well and safe.

Ham On and be Radio-Active! That is all.

News You Can Use

[The newsletter](#) will be posted to the K4GSO website. Send information and pictures to [Marty](#)

[SSRC Logo Shirts & Caps](#)

[Green Clover Key Card](#)

[Perry Field Access](#)

[Membership Application](#)

[Buy/Sell/Trade](#)

[QST NFL](#) – NFL Section Newsletter

[Silver Springs Radio Club Website](#)

[NFL Section Website](#)

[WA7BNM Contest Calendar](#)

[NG3K DX](#)

Club Minutes and Financial Reports**2020 SSRC Officers**

[President - Elbert Wilkinson, KQ3K](#)

[V President – Jim Burgess, KN4MIV](#)

[Secretary – Ivory Williams, W6IVY](#)

[Treasurer – Bill Gillespie, KW5BG](#)

Directors

[Ron Viola, KS4SW](#)

[Mike Condon, W9MNC](#)

[Wayne Brown, N4FP](#)

Committee Chairs:

[Membership – Carl Berry, KC5CMX](#)

[Trustee K4GSO – Wayne Brown, N4FP](#)

[Newsletter – Marty Brown, N4GL](#)

Building a Serious State-of-the-Art HF Transceiver

by Bert Garcia N8NN

After 60+ years of ham radio and living by the slogan *Life's Too Short for QRP*, here I am at the bottom of a sunspot cycle thinking about QRP! Why...? Because QRP involves kit building. No longer can you build an EF Johnson, a Knight Kit, an Eico or a Heathkit radio. Those days are gone. Oh yes, you can put together a no-solder Elecraft radio with nothing more than a screwdriver, but is that really kit building? Without the smell of rosin, I think not.

After searching the Internet for a good QRP kit, I chose the mcHF radio by Chris Atanassov, MØNKA in the United Kingdom. Chris has designed a truly serious 5 watt QRP transceiver that operates on 80-10 meters, SSB/CW/AM/FM/RTTY/PSK and digital voice, two VFOs with split operation, DSP filtering from 300 Hz to 10 kHz, passband tuning, DSP noise reduction, DSP automatic notch filter, noise blanker, touch screen with spectrum and waterfall displays, built-in speaker, automatic antenna tuner, on-screen CW/RTTY/PSK decoding, built-in RTTY/PSK transmit from paddle, USB keyboard or stored messages for RTTY/PSK/CW, built-in CW memory keyer, USB interface for computer control and software updates, plus general coverage receive 2-30 MHz. You probably think I'm describing an Icom IC-7610 -- I'm not. You get all this in a 7.5 x 3 x 1.5 inch package that weighs less than 2 pounds.



Figure 1: mcHF QRP transceiver.

Figure 1 shows the completed radio I built. You can purchase the bare circuit boards and go on a scavenger hunt for the parts, or you can purchase the boards with the surface-mounted parts installed and a bag with most of the other parts as I did. You need to wind the tiny toroids and transformers, solder the larger parts, purchase the final transistors, a speaker, and a suitable case elsewhere. A microphone and CW key are not included in the kit.

The radio is built on two circuit boards -- a Display/Control/DSP board and an RF board. The add-on automatic antenna tuner, not sold by MØNKA, is on a third board. Figure 2 shows the current version 0.6.3 kit from MØNKA, though my version 0.6.0 kit did not have the large components mounted. Figure 3 shows my completed Display/Control/DSP board front and rear. Figure 4 is my a partially completed RF board with a

Lincoln penny on it for a size comparison. The large hole in the RF board allows clearance for the speaker.



Figure 2: mCHF kit, photo by Chris MØNKA.

Next Club Meeting

August 18, 7:00 PM via Zoom

Bert, N8NN, will discuss this project and answer your questions!

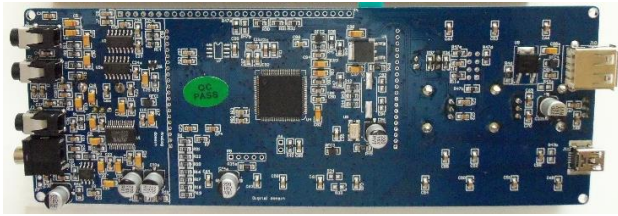
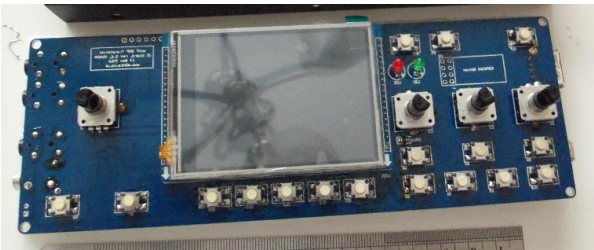


Figure 3: My mCHF Display/Control board, front (top) and rear (bottom).

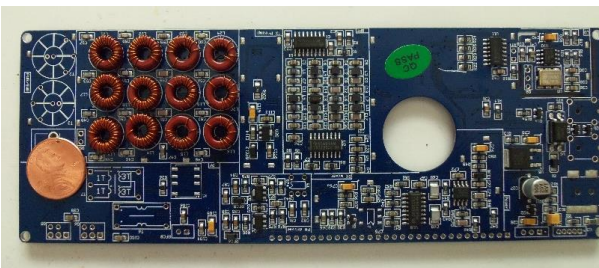


Figure 4: My partially assembled RF board.

Chris's design is a direct conversion receiver and transmitter with a microcontroller to provide front panel display/control and DSP functions. He kept the analog components to a minimum and shifted as much functionality to the microcontroller as possible. This kit requires advanced soldering skills as well as tuning and alignment, and software programming.

The microcontroller is not pre-programmed, so you need to obtain software and a boot loader program to install it. Some software experience is a big help. The software is open source and constantly being improved,

and today the software is mature and stable. The software tools to install the mCHF program are available for free on the Internet. A GitHub project includes in-depth documentation and the software you need to load into the mCHF.

Does it work? You bet it does...! Watch this video of my 5 watt mCHF in action working DX in the CQWW contest <https://www.youtube.com/watch?v=quOqvoFQvcE>. The receiver performs as well as a commercial transceiver costing five times the price of the kit. It's only a 5 watt QRP transceiver, so you need to work hard to make contacts. To make QSOs a little easier, I added a 50 watt amplifier from HobbyPCB -- but that's a story for another day.

References:

- (1) mCHF QRP Transceiver http://www.m0nka.co.uk/?page_id=740 \$293 plus shipping
- (2) Automatic antenna tuner kit <https://www.mchf.at/> \$108 shipped
- (3) GitHub software project <https://github.com/df8oe/UHSDR>, free
- (4) CQWW 2017 video <https://www.youtube.com/watch?v=quOqvoFQvcE>
- (5) Chuck Horvath WD8BXS, <https://www.qrz.com/lookup> USA guru

Get On the Air in These Upcoming Events

[North American QSO Party](#), SSB, August 15-16

[CW Ops CW Open](#), September 5

State QSO Parties Maintained by N5NA			
Hawaii	08/22/2020	08/24/2020	Hawaii QSO Party
Ohio	08/22/2020	08/23/2020	Ohio QSO Party
Kansas	08/29/2020	08/30/2020	Kansas QSO Party
Colorado	09/05/2020	09/06/2020	Pikes Peak Radio Amateur Association
Tennessee	09/06/2020	09/07/2020	Tennessee QSO Party
Alabama	09/12/2020	09/13/2020	Alabama QSO Party
Texas	09/12/2020	09/13/2020	Texas QSO Party
Iowa	09/19/2020	09/20/2020	Story County ARC
New Jersey	09/19/2020	09/20/2020	New Jersey QSO Party
Washington	09/19/2020	09/20/2020	Western Washington DX Club
Maine	09/26/2020	09/27/2020	Wireless Society of Southern Maine
California	10/03/2020	10/04/2020	California QSO Party
Nevada	10/09/2020	10/11/2020	Sierra Nevada Amateur Radio Society
Arizona	10/10/2020	10/11/2020	Arizona QSO Party
Pennsylvania	10/10/2020	10/11/2020	The PA QSO Party Association
South Dakota	10/10/2020	10/11/2020	South Dakota QSO Party

